

REMARKS

Claims 1-40 are pending in this application. Claims 36-40 stand withdrawn as being directed to a non-elected invention.

Claim Rejections Based on Prior Art

Rejections Based on Klardie

Claims 14-19 and 33-35 are rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,782,918 to Klardie et al. (“Klardie”). Klardie discloses an implant and abutment system used for dental restoration. Col. 3, ll. 39-42. Klardie also teaches that a retention screw should *not* be utilized to connect an abutment to an implant, as a variety of shortcomings exist when retention screws are used. Col. 1, ll. 16-36; Col. 2, ll. 25-41. Therefore, rather than using a threaded retention screw, Klardie teaches the use of a locking pin to help secure the abutment to the implant. Col. 4, ll. FIGs. 1-2. The locking pin in no way interacts with the implant, but rather is threaded only into the abutment. Col. 6, ll. 48-67. The locking pin spreads apart two segmented portions of the abutment to cause the abutment lip to snap into a groove in the implant. Col. 5, ll. 15-30. Thus, the locking pin simply deforms the lower portion of the abutment to lock the abutment to the implant. As explained below, the present invention requires the use of a screw that axially holds the abutment on the implant

Claim 14

Claim 14 of the pending application has been amended to clarify the invention and positively recites “an abutment in combination with an axial retention screw” and “a through-bore extending through the stem and the post, wherein the through-bore receives the axial retention screw for limiting the axial movement of the abutment in response to the screw threadably engaging the interior bore of the implant.” “A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.” *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631 (Fed. Cir. 1987); MPEP § 2131. As previously mentioned, Klardie in no way teaches or suggests the use of a retention screw. In fact, a stated object of Klardie is to “reduce the necessity of removing and reworking the implant connectors due to failure of individual *threaded elements*.” Col. 2, ll. 47-49 (emphasis added). Thus, Klardie fails to teach, disclose, or suggest all of the limitations of claim 14. Therefore, Klardie does not anticipate, nor render obvious, claim 14, and Applicant respectfully requests that this rejection be withdrawn.

Claims 15-19

Claims 15-19 are dependent claims that depend directly from claim 14. As not all of the limitations of claim 14 are disclosed or suggested by Klardie, claims 15-19 are not anticipated nor rendered obvious by Klardie. Thus, Applicants respectfully request that these rejection be withdrawn.

Claim 33

Claim 33 recites “subsequent to sensing the tactile feedback, engaging the implant with retention structure to resist axial movement of the abutment relative to the implant.” As previously discussed, Klardie in no way teaches or suggests the use of a retention structure that engages the implant. Rather, Klardie teaches using a locking pin to deform a portion of the abutment so that the abutment and implant are axially connected. Col. 4, ll. 48-67; col. 5, ll. 15-30; FIG. 2. The locking pin of Klardie in no way interacts with the implant. Thus, Klardie fails to teach, disclose, or suggest all of the limitations of claim 14. Therefore, Klardie does not anticipate, nor render obvious, claim 33, and Applicant respectfully requests that this rejection be withdrawn.

Claim 34

Claim 34 is a dependent claim that depends directly from claim 33. As not all of the limitations of claim 33 are disclosed or suggested by Klardie, claim 34 is not anticipated nor rendered obvious by Klardie. Thus, Applicants respectfully request that these rejection be withdrawn.

Claim 35

Claim 35 recites “subsequent to sensing the tactile feedback, engaging a threaded bore within the implant with an axial retention screw to limit axial movement of the abutment relative to the implant.” As previously discussed, Klardie in no way teaches or suggests the use of a retention screw that engages the implant. Rather, Klardie teaches using a locking pin to deform a portion of the abutment so that the abutment and implant are axially connected. Col. 4, ll. 48-67; col. 5, ll. 15-30; FIG. 2. The locking pin of Klardie in no way interacts with the implant. Thus, Klardie fails to teach, disclose, or suggest all of the limitations of claim 14. Therefore, Klardie does not anticipate, nor render obvious, claim 35, and Applicant respectfully requests that this rejection be withdrawn.

Rejections Based on Kumar

Claims 1-11, 13-24, and 26-35 are rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent Pub. No. 2004/0038179 by Kumar et al. (“Kumar”).

A declaration has been submitted under 37 C.F.R. § 1.131. The declaration establishes that the subject matter of the pending application was invented prior to the priority date of Kumar. Kumar claims priority to U.S. Provisional Patent App. No. 60/339,127 filed on December 7, 2001. The inventors state that Exhibits A, B, C, and D show CAD drawings of the claimed subject matter of the present application that were developed prior to December 7, 2001. (Decl. ¶¶ 4-7). Further, the inventors state that physical prototypes of the designs shown in Exhibits A-D were created prior to December 7, 2001. (Decl. ¶ 8). The inventors also state that testing was requested on the physical prototypes created prior to December 7, 2001. (Decl. ¶ 9).

In addition, the inventors state that they diligently worked on this technology and on developing the provisional applications on which the present application claims priority. (Decl. ¶¶ 10). Hence, it is clear that the subject matter disclosed and claimed in the present application was invented before December 7, 2001. Therefore, the Applicants respectfully request that the 35 U.S.C. § 102(e) rejections based on Kumar be withdrawn.

Rejections Based on Klardie in view of Sutter

Claims 1-11, 13, 20-24, and 26-35 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Klardie in view of U.S. Patent No. 6,227,859 to Sutter (“Sutter”).

Sutter discloses a dental implant and a secondary part adapted to connect to the dental implant. Col. 1, ll. 5-10. Sutter shows that the implant has a positioning section that contains positioning projections and positioning interstices, the positioning section being used to rotationally position the secondary part with respect to the implant. Col. 6, ll. 29-59; col. 11, ll. 15-39; FIG. 19. Sutter discloses that a screw is used to axially position the secondary part relative to the implant, by threading into the implant. Col. 11, ll. 39-52. Sutter in no way teaches or suggests any feedback feature on the implant or the secondary part.

As previously stated, Klardie in no way teaches or discloses an abutment screw that engages an implant. In fact, Klardie makes quite clear that an abutment screw is undesirable, and a stated objective of Klardie is to “reduce the necessity of removing and reworking the implant connectors due to failure of individual threaded elements.” Col. 1, ll. 16-36; Col. 2, ll. 25-41; Col. 2, ll. 47-49.

Claim 1

Claim 1 recites several limitations, among them “an implant feedback feature in the interior bore, and a threaded section distal of the feedback feature,” “an abutment screw adapted to fit within the through-bore and axially retain the abutment in the implant, wherein the abutment screw comprises ... a distal end comprising threads adapted to engage the threaded section of the implant.”

Although a prior art reference may be modified to meet the claimed limitation, the resultant modified reference is not obvious unless the prior art also suggests or motivates the desirability of the modification. *In re Mills*, 916 F.2d 680, 682, 16 U.S.P.Q.2d 1430, 1432 (Fed. Cir. 1990) (citing *In re Gordon*, 733 F.2d 900, 902, 221 U.S.P.Q. 1125, 1127 (Fed. Cir. 1984)). Obviousness cannot “be established using hindsight or in view of the teachings or suggestions of the invention.” *Ex parte Maguire*, 2002 WL 1801466, *4 (Bd. Pat. App. & Inter. 2002) (quoting *Para-Ordnance Mfg. Inc. v. SGS Importers Int'l Inc.*, 73 F.3d 1085, 1087, 37 U.S.P.Q.2d 1237, 1239 (Fed. Cir. 1995), cert. denied, 519 U.S. 822 (1996)). Further, the proposed modification cannot render the prior art “unsatisfactory for its intended purpose” nor can it “change the principle of operation” of a reference. M.P.E.P. § 2143.01 (citing *In re Gordon*, 733 F.2d at 902, 221 U.S.P.Q. at 1127 and *In re Ratti*, 270 F.2d 810, 813, 123 U.S.P.Q. 349, 352 (C.C.P.A. 1959)).

The law of obviousness requires that a reference be considered as a whole, including those portions that teach away from the claimed invention. *See W.L. Gore & Assoc., Inc. v. Garlock, Inc.*, 721 F.3d 1540, 1550-51, 220 U.S.P.Q. 303, 311 (Fed. Cir. 1983) (“[T]he totality of a reference’s teaching must be considered.”); *see also* M.P.E.P. § 2141.02 (stating that prior art must be considered in its entirety including disclosures that teach away from the claims). Indicia of teaching away in a reference give insight into the question of obviousness. *Monarch Knitting Mach. Corp. v. Sulzer Morat GMBH*, 139 F.3d 877, 885, 45 U.S.P.Q.2d 1977, 1984 (Fed. Cir. 1998). A prior art reference may be considered to teach away when “a person of ordinary skill, upon reading the reference, would be discouraged from following the path set out in the reference, or would be led in a direction divergent from the path that was taken by the applicant.” *Monarch Knitting*, 139 F.3d at 885, 45 U.S.P.Q.2d at 1984 (quoting *In re Gurley*, 27 F.3d 551, 553, 31 U.S.P.Q.2d 1130, 1131 (Fed. Cir. 1994)).

The Examiner, of course, has the initial burden of establishing a *prima facie* basis to deny patentability to a claimed invention under any statutory provision. *In re Mayne*, 104 F.3d 1339, 41 USPQ2d 1451 (Fed. Cir. 1997). In rejecting a claim under 35 U.S.C. §103, the

Examiner is required to identify a source in the applied prior art for: (1) claim limitations; and (2) the requisite motivation to modify an applied reference or to combine applied references with a reasonable expectation of successfully achieving a specific benefit. *Smiths Industries Medical Systems, Inc. v. Vital Signs, Inc.*, 183 F.3d 1347, 51 USPQ2d 1415 (Fed. Cir. 1999).

A person having ordinary skill in the art would not be motivated to combine the teachings of Klardie with those of Sutter. Klardie teaches that a screw to retain the abutment to the implant should not be used for a variety of reasons. Col. 1, ll. 16-36; Col. 2, ll. 25-41. Klardie even goes so far as to suggest that an object of that invention is to eliminate the screw to reduce the number of failures caused in implants based on the failure of threaded elements. Col. 2, ll. 47-49. Thus, one having ordinary skill in the art would read Klardie as teaching that a screw to retain the abutment to the implant should never be used. Therefore, a person having ordinary skill in the art would not combine Klardie with Sutter, as doing so would both render Klardie “unsatisfactory for its intended purpose” of reducing failures caused by threaded elements, and would “change the principle of operation” of Klardie by utilizing a retaining screw that Klardie is designed to eliminate. MPEP § 2143.01. Therefore, no motivation exists to combine Klardie with Sutter, and Applicants respectfully request that this rejection be withdrawn.

Klardie additionally teaches away from a combination with Sutter. As previously stated above, an object of Klardie is to eliminate a screw used to hold an abutment to the implant. Col. 2, ll. 47-49. Thus, Klardie clearly teaches that no screw should be used to hold an abutment to an implant. However, Sutter clearly shows that a screw is used to hold the abutment to the implant. FIG. 19. Therefore, one skilled in the art considering the entirety of Klardie and Sutter would not combine the teachings of these references, as Klardie clearly teaches away from Sutter. MPEP § 2141.02.

Further, Klardie clearly teaches away from the invention of claim 1. Claim 1 of the present invention recites “an abutment screw adapted to fit within the through-bore and axially retain to the abutment in the implant.” As Klardie clearly teaches that no abutment screw should be used, Klardie teaches away from claim 1. MPEP § 2141.02.

Claims 2-9

Dependent claims 2-9 depend either directly or indirectly from claim 1. For at least the reasons previously mentioned, Klardie in view of Sutter fails to set out a *prima facie* case of obviousness, and the Applicants respectfully request that these rejections be withdrawn.

Claim 11

Independent claim 11 recites several limitations including “an internal feedback feature adapted to interface with an abutment for providing to a practitioner feedback indicating when the abutment is properly seated” and “an internal axial retention section distal of the internal feedback feature and adapted to couple with an abutment retention shaft extending through the abutment to limit axial movement of the abutment relative to the implant.”

As previously disclosed, Klardie in no way teaches or suggests an abutment retention shaft that couples with the implant. In fact, Klardie teaches away from such a type of connection between an implant and an abutment. Sutter in no way teaches or suggests an internal feedback feature. As Klardie teaches away from using an abutment retention shaft, no motivation for combining Klardie and Sutter is present in the cited references.

For at least the reasons set forth above with respect to claim 1, Klardie in view of Sutter fails to set out a *prima facie* case of obviousness. Klardie would be made unsatisfactory for its intended purpose if a retaining screw was used, Klardie teaches away from Sutter, and Klardie teaches away from the claims of the pending application. Therefore, Applicants respectfully request that these rejections be withdrawn.

Claim 13

Dependent claim 13 depends directly from claim 11. For at least the reasons previously mentioned, Klardie in view of Sutter fails to set out a *prima facie* case of obviousness, and the Applicants respectfully request that these rejections be withdrawn.

Claim 20

Independent claim 20 recites several limitations including “a screw passing through said through-bore of said abutment and threadably engaging said threaded section of said internal bore of said implant, said screw axially retaining said abutment on said dental implant.” As previously mentioned, Klardie in no way teaches or suggests such a limitation, and in fact teaches away from the use of a screw. As a person having ordinary skill in the art would therefore find no motivation to combine Klardie with Sutter, a *prima facie* case of obviousness has not been established for claim 20. Thus, the Applicants respectfully request that this rejection be withdrawn.

Claims 21-24 and 26-32

Dependent claims 21-24, and 26-32 depend either directly or indirectly from claim 20. For at least the reasons mentioned regarding claim 20, Klardie in view of Sutter fails to set out a *prima facie* case of obviousness, and the Applicants respectfully request that these rejections be withdrawn.

Claim 33

Claim 33 recites “subsequent to sensing the tactile feedback, engaging the implant with retention structure to resist axial movement of the abutment relative to the implant.” as mentioned above, there is no motivation to combine Klardie with Sutter, as Klardie teaches away from having a retention structure that engages the implant. As a person having ordinary skill in the art would therefore find no motivation to combine Klardie with Sutter, a *prima facie* case of obviousness has not been established for claim 33. Thus, the Applicants respectfully request that this rejection be withdrawn.

Claim 34

Dependent claim 34 depends directly from claim 33. For at least the reasons previously mentioned, Klardie in view of Sutter fails to set out a *prima facie* case of obviousness, and the Applicants respectfully request that these rejections be withdrawn.

Claim 35

Claim 35 recites “subsequent to sensing the tactile feedback, engaging a threaded bore within the implant with an axial retention screw to limit axial movement of the abutment relative to the implant.” Klardie teaches away from using a retention screw that engages a threaded bore within the implant. Sutter in no way teaches or suggests tactile feedback. As a person having ordinary skill in the art would therefore find no motivation to combine Klardie with Sutter, a *prima facie* case of obviousness has not been established for claim 35, as Klardie would be made unsatisfactory for its intended purpose if a retaining screw was used, Klardie teaches away from Sutter, and Klardie teaches away from claim 35 of the pending application. Therefore, Applicants respectfully request that these rejections be withdrawn. Thus, the Applicants respectfully request that this rejection be withdrawn.

Rejections Based on Constantino

Claims 12 and 25 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Klardie in view of Sutter and further in view of U.S. Patent Pub. No. 2003/0224327 to Constantino (“Constantino”). Claims 12 and 25 are also rejected under 35 U.S.C. § 103(a) as being unpatentable over Kumar in view of Constantino.

A declaration has been submitted under 37 C.F.R. § 1.131. The declaration establishes that the subject matter of the pending application was invented prior to the priority date of Constantino.

Constantino was filed on June 3, 2002. The inventors state that Exhibits A, B, C, and D show CAD drawings of the claimed subject matter of the present application that were developed prior to December 7, 2001. (Decl. ¶¶ 4-7).

Further, the inventors state that physical prototypes of the designs shown in Exhibits A-D were created prior to December 7, 2001. (Decl. ¶ 8).

The inventors also state that testing was requested on the physical prototypes created prior to December 7, 2001. (Decl. ¶ 9).

In addition, the inventors state that they diligently worked on this technology and on developing the provisional applications on which the present application claims priority. (Decl. ¶¶ 10). Hence, it is clear that the subject matter disclosed and claimed in the present application was invented before December 7, 2001, which is prior to the filing date of Constantino of June 3, 2002. Therefore, the Applicants respectfully request that the 35 U.S.C. § 103(a) rejections based on Constantino be withdrawn.

Conclusion

In view of the above, each of the presently pending claims in this application is believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to pass this application to issue. It is believed that no additional fees are due other than the enclosed one-month extension fee; however, should any additional fees be required (except for payment of the issue fee), the Commissioner is authorized to deduct the fees from Jenkens & Gilchrist, P.C. Deposit Account No. 10-0447, Order No. 47168-00297USPT.

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Respectfully submitted,

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